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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,811	10/29/2003	Toshiya Uemura	PTGF-03081	6770

21254 7590 09/14/2005

MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

JACKSON JR, JEROME

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/694,811	UEMURA, TOSHIYA	
	Examiner	Art Unit	
	Jerome Jackson Jr.	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,9,12-17,19,21,22 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 8,10,11,18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1,2,6,7,9,12-17,19,21,22,24-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tadamoto, of record.

The new limitations in the claims do not structurally distinguish over Tadamoto because there are no specific limitations regarding the "interface" between the substrate and "light trapping member" to distinctly distinguish over Tadamoto. What exactly is the interface and what is its structure and how does it differentiate over Tadamoto? That is, applicant's claim reads on an aluminum oxide "member" disposed on an aluminum oxide "substrate" as shown in Tadamoto, and the final product comprising aluminum oxide on aluminum oxide with an "interface" is not specifically distinguishing over Tadamoto with the same resultant structure produced by a different method. In the event applicant argues some specific "interface", first, it has not been claimed with any specificity to structurally distinguish it unequivocally over Tadamoto. Secondly, there is an atomic "interface" between the substrate and ridge structures of Tadamoto, and accordingly, such atomic "interface" anticipates applicant's claims. Thirdly, presuming there is some structural "interface" difference between applicant and Tadamoto due to process differences, it has not been specifically claimed, and furthermore, it would have been obvious to have started with a bulk sapphire substrate in Tadamoto for lower processing costs, and subsequently epitaxially grown "ridges" to produce the PSS (patterned sapphire substrate) as such epitaxial processing is well known and obvious

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and bulk planar sapphire substrates for subsequent GaN device growth is standard procedure in the art. Producing PSS as Tadamoto with epitaxial ridge growth on inexpensive bulk sapphire substrates would have been completely obvious to one of ordinary skill in the art because bulk planar sapphire substrates are cheaper and more readily available and epitaxial growth processes are standard in the art. There is nothing unobvious in producing the PSS structure of Tadamoto with epitaxial growth of aluminum oxide ridges on a planar sapphire (aluminum oxide) starting substrate. Applicant's claims are anticipated or at least obvious over Tadamoto to one of ordinary skill in the art.

Claims 8,10,11,18,20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed 7/5/05 have been fully considered but they are not persuasive. The above comments and discussion apply to applicant's remarks. Further, the recitations, labels, or process connotations "interface", "line", and "laminated" do not structurally distinguish or make applicant's rejected claims unobvious over Tadamoto. A mere "line" in a drawing connoting some demarcation or "interface" does not per se structurally distinguish the claims over Tadamoto where a line can also be arbitrarily drawn across the ridges to delineate the base level of the grooves across the sapphire substrate. Likewise "laminated" is a process connotation and these claims are drawn to structure. See the previously recited product by process caselaw.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571-272-1730. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jj



JERONE JACKSON
PRIMARY EXAMINER